DOCUMENT RESUME

ED 412 029 PS 025 921

AUTHOR	Elmore, Randy; Hopping, Linda; Jenkins-Miller, Minnie; McElroy, Camille; Minafee, Margaret; Wisenbaker, Joseph
TITLE	Explorations in Multi-Age Teaming (MAT): Evaluations of Three Projects in Fulton County, Georgia.
PUB DATE	1996-10-31
NOTE	18p.; For related reports, see PS 025 920 and PS 025 922. Paper presented at the Annual Conference of the National Middle School Association (23nd, Baltimore, MD, October 31-November 3, 1996).
PUB TYPE	Reports - Evaluative (142) -- Speeches/Meeting Papers (150)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	Academic Achievement; Cooperative Learning; Critical Thinking; Experiential Learning; Grade 6; Grade 7; Grade 8; *Grouping (Instructional Purposes); Inclusive Schools; Instructional Innovation; Interdisciplinary Approach; Intermediate Grades; Junior High Schools; Middle Schools; *Mixed Age Grouping; *Multigraded Classes; Outcomes of Education; Program Evaluation; Scheduling; *Self Esteem
IDENTIFIERS	Fulton County Public Schools GA; Middle School Students

ABSTRACT

Multi-Age Teaming (MAT) programs were implemented at Crabapple and McNair Middle Schools in Fulton County, Georgia, in the fall of 1993, and at Camp Creek Middle School in the fall of 1994. An important goal of these programs was the creation of school families within schools with multi-age teams of sixth-, seventh-, and eighth-grade students. At Crabapple, the primary goal was to enhance self-esteem; whereas at Camp Creek and McNair, the primary goal was to raise academic achievement. Program evaluation began at Crabapple in 1993, and evaluation began at Camp Creek and McNair in 1995. The evaluation designs at all sites involved quantitative methods, including analysis of Iowa Test of Basic Skills (ITBS) scores, Coopersmith Self-Esteem Inventories (CSEI) results and attendance and behavior referral data; and qualitative methods, including surveys and interviews conducted with parents, students, and teachers. This progress report discusses the results of the evaluation. For Crabapple and Camp Creek, quantitative results are given for achievement assessed by the ITBS, for self-esteem as assessed by the Coopersmith results, and for student affect through absenteeism and disciplinary referral records. Data for McNair had been collected but not yet analyzed. Qualitative results from interviews covered multi-age grouping, self-esteem, peer mediation, interdisciplinary teaching, scheduling, and hands-on learning. For Crabapple, three years of survey results are given. Survey results for Camp Creek and McNair were not yet available. (Contains 3 figures and 6 tables.) (LPP)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)
X This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

ED 412 029

Explorations in Multi-age Teaming (MAT): Evaluations of Three Projects in Fulton County, Georgia

Dr. Randy Elmore
Secondary and Middle Grades Department
Kennesaw State University
Kennesaw, Georgia

Ms. Linda Hopping
Principal, Crabapple Middle School
Ms. Camille McElroy
Assistant Principal, Crabapple Middle School
Roswell, Georgia

Ms. Minnie Jenkins-Miller, Principal
Ms. Margaret Minafee,Teacher
Camp Creek Middle School
College Park, Georgia

Dr. Joe Wisenbaker
Department of Educational Psychology
University of Georgia
Athens, Georgia

National Middle School Conference
Baltimore, Maryland
October 31, 1996

PERMISSION TO REPRODUCE AND DISSEMINATE THIS MATERIAL HAS BEEN GRANTED BY
Randy Elmore
TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

PS 025921

BEST COPY AVAILABLE

Explorations in Multi-age Teaming (MAT): Evaluations
of Three Projects in Fulton County, Georgia

Introduction.

MAT program implementation began at Crabapple and McNair Middle Schools in Fulton County, Georgia in the fall of 1993. Implementation at Camp Creek was in the fall of 1994. An important project goal at these sites was the creation of school families within schools, multi-age teams of 6th, 7th, and 8th grade students.

At Crabapple two groups of approximately 110 students were assigned to teams of four teachers. For Crabapple, where achievement is high, ITBS percentile scores average 60-70%, the main goal was to enhance self-esteem. Additional goals included implementation of interdisciplinary, thematic instruction, flexible scheduling, Project Adventure, development of critical thinking, cooperative learning, hands on learning, and inclusion grouping for learning disabled and gifted students.

In contrast, the primary goal at Camp Creek and McNair schools was to raise achievement. Camp Creek goals including acceleration through MAT structure, field trips to increase relevancy, minimizing disruptions to learning, peer mediation, mentoring, enhancing leadership, hands on science/technology, and interdisciplinary instruction.

Like Camp Creek, the main goal for MAT at McNair was to increase achievement. Additional goals were to teach individual responsibility and enhance motivation to achieve, increase communications at school through MAT structure, including bonding of students and teachers into family-like structures, creation of an advisement program, increase home/school communications, and increase relevance of learning through hands on learning in computer technology and regular field trips into the community.

Procedures

Program evaluation began at Crabapple Middle in 1993 and is continuing. Evaluation of effectiveness of MAT implementation at Camp Creek and McNair Schools began in the summer of 1995. The evaluation designs at each site involved quantitative and qualitative methods. Quantitative measures included Iowa Test of Basic Skills (ITBS), Coopersmith Self-Esteem Inventories (SEI), and attendance and behavior referral data. Qualitative measures included surveys and interviews conducted with parents, students, and teachers. Because the evaluations are at different stages of data collection and analysis at various sites, this report is a progress report and results are preliminary in nature.

Quantitative Results

This section summarizes quantitative findings from comparisons of the MAT Students with non-MAT students for year three at Crabapple and McNair Schools and year two at Camp Creek. Included here are results of analyses of data from the Iowa Tests of Basic Skills (ITBS) and the Coopersmith Self-Esteem Inventory (SEI), absenteeism, discipline referral, and for each school site.

Given the unique circumstances surrounding the MAT programs, their environments, and the lack of independence among students within the three schools, these results are best viewed in a descriptive context. Results of inferential tests comparing MAT students with comparison students should be interpreted with this limitation in mind. Generalizations must, therefore, be seen as quite tentative with considerable need for validation through analyses of data collected over a longer span of time. Likewise, the transportability of experience to other schools cannot be unambiguously established.

Because a school-based longitudinal study naturally involves multiple sets of students progressing through the institutional cycle, it is best for discrete sets of students to be conceptualized as cohorts defined by the years in which students are enrolled in particular grades. Even in the context of the MAT program, students are administratively tagged based on the grade level in which they would be currently placed.

Results for Crabapple Middle.

Achievement as Assessed by the ITBS. Given the prominent role of standardized test scores in the current environment of accountability, no examination of a program such as the MAT would be complete without a look at changes in achievement scores. Test information for students was available only in the form of percentile ranks, thus average percentile ranks appear in tables.

Inspection of the information in Table 1 reveals two results of real interest. First, students at Crabapple score quite well on the ITBS. The average percentile ranks are virtually all in the 60s and 70s. No statistically significant differences existed between MAT and comparison students mean scores in year three of the project. Secondly, in years one and two a statistically significant difference existed between MAT and Comparison students with respect to their average performance on Math Computation. While the MAT mean on math computation is still lower than comparison students' mean score, there is no significant difference in year three. Except for math computation, in 1995-1996, MAT students' mean scores are consistently higher than comparison means. The math computation anomaly has been linked to specific curricular decisions which were made in one of the MAT teams.

Self Esteem. Table 2 contains a summary of the Coopersmith results comparing students in the MAT program at Crabapple with their Comparison counterparts for spring, 1996. Three cohorts of students are represented: students in the 6th grade who were experiencing the MAT program for the first time in 95-96, and those in grades 7 and 8 for whom this was their second and third year of involvement. The pattern of results involves clear differences among 6th graders with respect to all of the Coopersmith factors. Across the board, the Comparison students had greater means than did MAT participants. For 7th and eighth graders, the pattern changes and no statistically significant differences exist between MAT and Comparison Students' mean scores. In years one and two a somewhat different pattern existed in which MAT means were often lower than those of comparison students in grade six. No

significant differences existed between MAT and comparison students' mean SEI scores while MAT 8th graders tended to have higher SEI means, some of which were significantly higher.

These results have several possible interpretations none of which can be unambiguously embraced. One is that exposure to the program carries with it initially negative consequences for the self-esteem of younger participants which are subsequently reduced with greater exposure and increased maturation. Such an interpretation is appealing given a sense of what it would be like to be in a multi-aged classroom as a younger member observing the attainments of one's older peers. Over time, accumulated experiences would lead older students into more self-esteem enhancing roles mentoring younger colleagues. Alternatively, the pattern of results may represent chance variations in the students, the teachers, and the unique characteristics of the program as it comes to mature. Only a longer investigation could accumulate sufficient information to permit these and other interpretations to be judged as to adequacy.

Absenteeism and Disciplinary Referrals. Another potential barometer of student affect concerning school is afforded through institutionally collected information pertaining to student absenteeism and disciplinary referrals. Disciplinary referral rates are reported separately for those made by teachers within the students' team and those outside that team at Crabapple. Summaries of that information for both MAT and Comparison students are presented in Table 3 for 1995-1996.

Considering absenteeism, there are no specific differences between MAT and Comparison students which would be judged to be statistically significant. Patterns of results with respect to the descriptive statistics find MAT students having slightly lower absenteeism rates for some grade levels in some years and higher rates for others.

In general, disciplinary referrals were somewhat lower for MAT students, both in terms of referrals from teachers in their own teams as well as from teachers outside those teams. Where there were statistically significant results, for in-team referrals for grade eight, for example, MAT students were referred less frequently. Differences observed within the data for year two and three, however, seem less pronounced than those from the first year of the program in 1993-94.

Results for Camp Creek.

Achievement. An examination of ITBS scores for IMAT1 and non-IMAT students at Camp Creek Middle indicates a dramatic difference in achievement test scores. Several major findings are of interest. First, IMAT students appear to be strong performers, scoring consistently in the 60th to 75th percentile range while non-IMAT students obtain scores in the 35th to 50th percentile range. While one possibility is that the program may be having a beneficial effect, there may be additional explanations. In year one students were selected for the project and in year two parents could choose to have a child in the IMAT program. While an effort was made for the two groups to be similar in composition, more high achieving students may have been placed in the IMAT1 program. For example IMAT1 contains a number

of talented and gifted students which is not the case of IMAT2.

Self-Esteem. Unlike the pattern which emerged at Crabapple, there are few statistically significant differences between the Coopersmith SEI means of IMAT1 and IMAT2 students and comparison mean scores. When all IMAT means are compared with comparison students mean scores, one significant difference exists for the factor of school achievement. In a comparison of means for IMAT and non-IMAT sixth graders', a statistically significant difference existed for Social Self factor. IMAT students perceived their social selves more positively. At the seventh grade level, non-IMAT means were higher and in grade eight, IMAT means were consistently higher.

Attendance and Behavior Referrals. Data were not yet available for a comparison of IMAT and non-IMAT attendance and are not discussed. Limited data were available for an analysis of behavior referrals. Table 6 reveals that IMAT seventh and eighth graders are absent at a rate that is lower than the rate for comparison students. IMAT behavior referrals for grade eight students are statistically significantly lower than for non-IMAT students. Many view behavior referral rate as an affective measure of program effects.

Results for McNair Middle.

While data collection for ITBS, Coopersmith SEI, and attendance and behavior referrals is completed, statistical analyses of this information have not been undertaken. Because the program has included large numbers of at-risk and behavior disorder students, using a control population did not appear appropriate. Instead, descriptive statistics will include an examination of gain scores for the three year period in which the IMAT program has existed.

Qualitative Results:

Interviews

Interview questions focused on goals of the middle school MAT Projects. The MAT projects sought to enhance achievement, self-concept, motivation and attendance, to improve sense of community, and to enhance commitment and empowerment of students, teachers, and parents. Multi-age grouping, flexible scheduling, responsibility for self, interdisciplinary thematic instruction, cooperative learning, instruction on critical thinking, increased use of hands on learning, increased use of computer technology, and Project Adventure were employed to accomplish goals in the three schools.

MAT Grouping. Multi-aged grouping has been implemented at Crabapple Middle, Camp Creek and at McNair Middle Schools. Two teams, each with 110 students were created at Crabapple Middle in the fall of 1993. At Camp Creek one team of 100 students was created in the fall of 1994 and another was developed in the fall of 1995. At McNair, one team was implemented in the fall of 1993 and the total number of students has remained about 75, including equal numbers of 6th, 7th, and 8th graders. Teaching team members have concentrations in math, social studies, science, and reading/language arts. The gifted and learning disabled are served on team at

Crabapple and, in year two of MAT implementation, MAT teachers earned certifications in gifted education. Gifted are included in IMAT1 team at Camp Creek. At Mcnair, a class of behavior disordered students is included within the team.

Self-esteem. From the interviews, teachers and parents, in particular, believe the MAT structure holds potential for boosting student self-esteem. For example, MAT teachers at Crabapple believed the MAT program and Project Adventure boosted student self-esteem and helped teachers and students adjust to the new program. At all three schools, teachers said that, since they already knew students from the previous year, individualization of instruction for students' strengths and weaknesses could occur from the beginning of the year. One MAT student joked that teachers knew them too well!

Some students in MAT at Crabapple, Camp Creek, and McNair indicated they missed their friends in regular classes and eighth graders said they missed traditional eighth grade privileges. At each school, some competition existed between MAT program students and non-MAT students.

Faculty, students, and parents at Crabapple responded very positively about Project Adventure (PA), a ropes course program designed to build leadership, group relationships, and self-confidence. Camp Creek used ropes course training for group development in 1994 when MAT was implemented there.

Evidence existed to indicate that Camp Creek implemented a mentoring program with mentors from a nearby military base meeting with students on a regular basis. Faculty in the school are paired with students in need and these individuals tutor after school.

Peer Mediation. A peer mediation program was begun at Camp Creek and McNair Schools as MAT was implemented. While peer mediations still occur at Camp Creek, perhaps because funding was no longer available, the project is not being expanded and may be diminishing. Peer mediation is a school-wide program at McNair Middle and one IMAT student reported leading a number of mediations in 1995-1996.

Interdisciplinary teaching. Within the Crabapple MAT Program, large, planned units involving all MAT teachers were conducted in year one. An example was the settlement of Georgia unit in which students built rafts to cross the Chattahoochee River. Parents, teachers, and students participated in the raft trip. In year two, units were smaller and appeared to involve less whole-team planning. At Camp Creek and McNair, evidence of interdisciplinary instruction was provided. However, there did not appear to be more integration in IMAT than in the larger program.

Scheduling. While the instructional schedule at Crabapple appears quite flexible and changes frequently, regular 50 minute periods are used at Camp Creek. Block scheduling is used at McNair and evidence existed to indicate that some students change groups quarterly. In year two, MAT A teachers at Crabapple, changed groups every six weeks and used various criteria to form groups. Groups were created using developmental readiness, sex, interest, achievement, and ability. Students and parents commented on the extensive use of learning styles for grouping students. A variety of period and unit lengths were employed. A MAT B student indicated that in year two

the schedule was less flexible, that more students were grouped by grade level, and there was less individualization than in year one.

Hands On Learning. Participants in interviews, at Crabapple and McNair in particular, provided many examples in which teachers involved students in active participation in learning. Activities included: a variety of art projects, laboratory activities in science, computers, and technology, role playing, food preparation, and games.

Survey Results.

Surveys to assess progress in implementing MAT and related goals within the three school have been administered at the end of the school year. At Crabapple Middle, survey data exist for three years. Surveys were administered at the end of the 1995-1996 year at Camp Creek and McNair. Analysis of 1995-1996 survey information is in process and incomplete at this time.

Results of a program effectiveness survey for Crabapple Middle for year two is included in Table 7 for illustration. Table 7 contains MAT and Comparison parents' perceptions of program effectiveness in the spring of 1995. The data reveal that, for one third of items, MAT parents gave grades of above average (B) or higher. Both MAT and Comparison parents gave an average (C) or higher evaluation to all items. Crabapple parents believe that program effectiveness is better than average in virtually all areas.

T tests conducted for differences in mean responses of MAT and Comparison parents revealed that MAT parents gave significantly higher marks for program effectiveness on 18 of 25 items. This finding appears to support the implementation of the MAT structure and accompanying goals.

Figure 1.
Inferences from Interviews with Crabapple Teachers, Parents, and Students at the end of the 1995 School Year

Project Goal	Outcome
Create MAT Structure	MAT Represents a caring, nurturing family structure.
	Eighth Graders mentor seventh and sixth graders.
Enhanced Self-Esteem	Most MAT teachers and parents believe that MAT structure enhances self-esteem.
	Some students are bothered by using texts for older or younger students.
	Some MAT students miss being with historical peers in the comparison program.
Interdisciplinary Teaching	Teachers plan interdisciplinary units as a team.
	In year one, units were larger and more team members were involved. In year two, units were smaller and taught by fewer team members.
	Math tends to be taught separately in year two.
Hands On Learning	There is considerable evidence of hands on learning in MAT and Comparison program. Hands on appears to occur more often in the MAT groups.
Flexible Scheduling	The schedule is changed frequently in the MAT Groups.
	The schedule is often planned for two-three weeks ahead.
Grouping	Groups in the MAT structure are changed every six weeks.
	Teachers move students from group to group during the year.

Project Adventure	Teachers, students, and parents believe that Project Adventure builds self confidence, team relationships, leadership, and problems solving skills. Parents and students would like to have Project Adventure taught more frequently.
Inclusion Grouping	Most teachers, students, and parents are positive about having gifted and learning disabled students taught within the MAT structure. Gifted students report they are more comfortable in MAT structure since they are not singled out. They say they are "picked on" less.
Critical Thinking	Contract extensions provide evidence of individualization to enhance higher order thinking for students, including gifted and high achieving students.

Figure 2.
Inferences from Interviews with Camp Creek Teachers, Parents, and Students

I. Inferences from Interviews with IMAT1 faculty.

A. IMAT teachers believe that learning can be accelerated if younger students study with older students.

B. IMAT teachers use homogeneous grouping and 50 minute periods and some students move to different groups at the end of each quarter.

C. Teachers believe that older students model respect for teachers and essentially socialize younger students so that there will be fewer discipline problems in the IMAT structure.

D. A variety of incentives including field trips and t-shirts are used to motivate IMAT students.

E. Teachers believe that IMAT structure facilitates individualization because in year two teachers know students better.

F. In year one eighth graders resented giving up senior privileges.

G. The teachers feel their greates problem is having parents apply pressure to place a child in IMAT who is unable to handle acceleration.

H. Considerable evidence exists that teachers use computers, hands on learning, and cooperative learning.

I. Teachers believe that IMAT students are regarded by students at Camp Creek as leaders and role models.

J. Peer Mediations at Camp Creek appear to occur at a rate of 4-5 a quarter.

II. Inferences from IMAT1 Parents Interviews:

A. Seventh and eighth graders notice immaturity of sixth graders.

B. Younger students feel a sense of pride when they are successful with work traditionally done by older students.

C. Parents believe that few discipline problems exist in IMAT1 program.

D. Parents indicated that computers are used in exploratory classes, diversified technology, and some students do papers on computers at home.

III. Inferences from IMAT1 Student Interviews:

A. Students indicated they felt some animosity from Non-IMAT students in year one of the program. This situation has improved in year two.

B. IMAT students believe that discipline is good in the program and that students are respectful of teachers.

C. IMAT students believe that Peer Mediation is good and would like to see the idea expanded.

D. Students feel that more hands on learning was done in year one and that there is more of an emphasis on textbooks in year two.

Figure 3.
Inferences from Interviews with Teachers, Parents and Students at McNair Middle School

I. Inferences from Interviews with Teachers

A. Project goals have included: Better environment for middle school students, flexible block scheduling, multi-age grouping, hands on learning, a friendly, family atmosphere, higher test scores and increased use of computers.

B. A significant problem for the MAT program is the conflict between the goal for flexible scheduling and the OSIRIS, Georgia mandated computer scheduling program.

C. MAT teachers believe that flexible scheduling allows more time to teach - more time for slower students to learn, more time to integrate subjects and to work in depth on topics, and to complete hands on projects.

D. Significant advantages exist for BD students housed in the MAT program and these include the fact that MAT students become advocates for BD students.

E. The MAT team began the project with as large number of at-risk students and while this orientation has changed dramatically to include a balance of students, the team still has an affinity for the difficult to teach student.

F. The MAT team feels that the team and students are subject to some discrimination on the part of the larger student body and administration. Non-Mat students seem to resent the MAT project and the administration leaves MAT students out of activities.

G. The MAT team uses a range of strategies to raise achievement including communicating caring high expectations, encouragement, and incentives such as recognition for achievement, scholar dollars, contracts, and a program called Attitudes, Achievement, and Attendance.

H. MAT faculty use personal concern and contracts to increase independence and responsibility.

I. MAT faculty indicated they frequently call parents and parents contact the faculty. A phone is in the MAT classrooms area (student interviews confirmed the strong home/school communications.

J. MAT faculty say they faculty enjoy one another, have bonded into an effective team and use lack of turnover as evidence.

L. Frequent field trips into the community provide evidence that the goal of making learning more relevant is being pursued.

Table 1
Comparison of Crabapple MAT and Non-MAT Students with Respect to ITBS Scores for 1995-1996

Grade Seven

	MAT Students (n=63)		Comparison Students (n= 54)			
Measure	Mean	Std.	Mean	Std.	t	pr(t)
ITBS						
Reading Comprehension	78.68	17.22	70.98	25.52	1.88	.06
Language Total	73.01	22.18	70.85	24.84	.50	.62
Math Computation	74.71	22.77	71.73	22.77	.71	.48
Math Problem Solving	74.56	23.51	74.18	22.71	.09	.93
Math Total	74.86	23.12	73.16	24.28	.39	.70
Core Total	75.67	19.92	72.35	24.20	.81	.41

Grade Eight

ITBS						
Reading Compre-hension	77.63	19.41	74.08	24.38	.82	.41
Reading Total	72.63	20.17	70.64	21.64	.48	.63
Math Concepts	79.25	20.54	74.81	27.74	.91	.36
Math Computation	63.15	22.92	65.88	26.49	.56	.58
Math Problem Solving	80.76	17.34	73.83	23.88	1.67	.10
Math Total	76.95	20.09	73.52	25.62	.76	.45
Core Total	77.92	18.75	74.56	23.93	.80	.43

Table 2
Comparison of Crabapple MAT and Non-MAT Students with Respect to Measures of Self-Esteem as Measured in the Spring of 1996

	MAT Students (n=184)		Non-MAT Students (n=154)			
Measure	Mean	Std.	Mean	Std.	t	pr(t)
Coopersmith SEI						
General Self	17.73	5.04	19.70	4.70	3.71	.0002*
Social Self	5.93	1.81	6.41	1.70	2.52	.01*
Home/Parent	4.91	2.31	5.91	2.09	4.15	.0000*
School Achievement	4.83	1.94	5.35	1.93	2.48	.01*
Total	33.41	8.79	37.38	8.50	4.21	.0000*
Grade Six						
General Self	17.34	5.39	20.67	3.96	3.88	.0002*
Social Self	6.01	1.89	6.68	1.38	2.21	.03*
Home/Parent	4.98	2.47	6.44	1.84	3.69	.0004*
School Achievement	4.57	1.96	5.87	1.68	3.93	.0001*
Total	32.91	9.66	39.67	6.81	4.43	.0001*
Grade Seven						
General Self	17.77	4.57	18.39	5.22	.65	.52
Social Self	5.62	1.92	5.98	2.13	.90	.37
Home/School	5.03	2.34	5.39	2.32	.79	.43
School Achievement	4.82	1.95	5.05	2.03	.58	.56
Total	33.25	8.14	34.80	9.62	.91	.37
Grade Eight						
General Self	18.08	5.27	19.24	5.09	1.09	.28
Social Self	6.20	1.54	6.39	1.70	.56	.58
Home/School	4.71	2.11	5.54	2.10	1.93	.06
School Achievement	5.10	1.90	4.78	2.07	.80	.42
Total	34.10	8.71	35.95	9.09	1.02	.31

Table 3
Comparison of Crabapple MAT and Non-MAT students with Respect to Absenteeism and Disciplinary Referrals for the 1995-1996 School Year

	MAT Students (n=64)		Non-MAT Students (n=63)			
Measure	Mean	Std.	Mean	Std.	t	pr(t)
Grade Six						
Absenteeism	6.94	5.96	8.17	7.58	-1.02	.31
Disciplinary Referrals						
In Team	.06	.25	.12	.49	-.90	.37
Off Team	.10	.35	.25	.75	-.48	.14
Grade Seven						
Absenteeism	7.72	6.10	9.21	7.89	-1.17	.24
Disciplinary Referrals						
In Team	.05	.21	.27	1.18	-1.55	.13
Off Team	.44	2.26	.71	1.94	-.74	.46
Grade Eight						
Absenteeism	9.94	9.47	8.14	6.01	1.20	.23
Disciplinary Referrals						
In Team	.13	.46	.75	1.47	-3.02	.004*
Off Team	.08	.33	.27	.77	-1.66	.10

Table 4
Comparison of Camp Creek IMAT and Comparison Students' ITBS Performance as Measured in the Spring of 1996

	IMAT n=39		Comparison n=34			
Measure	Mean	Std.	Mean	Std.	t	pr(t)
ITBS						
Grade 7						
Vocabulary	70.79	25.98	43.18	24.14	4.68	.000*
Comprehension	66.48	29.09	46.29	23.77	3.22	.002*
Reading Total	69.33	28.07	44.97	23.12	4.01	.0001*
Spelling	74.45	24.94	69.53	24.12	.85	.40
Capitalization	74.63	22.66	68.91	18.56	1.16	.25
Punctuation	71.61	25.57	60.44	24.42	1.89	.06
Usage	76.03	24.77	51.12	21.11	4.56	.0000*
Lang. Total	76.63	24.55	63.91	19.89	2.40	.02*
Math Concepts	72.74	27.54	58.82	22.16	2.33	.02*
Math Problem Solving	71.90	26.64	51.73	21.30	3.50	.0008*
Math Total	74.97	26.25	54.78	20.83	3.53	.0007*
Core Total	74.76	26.23	56.09	21.43	3.25	.002*
Grade 8						
Vocabulary	55.88	29.05	31.63	23.72	3.76	.0004*
Comprehension	62.88	22.17	29.03	19.32	6.68	.0000*
Reading Total	60.53	24.71	29.09	20.37	5.70	.0000*
Spelling	66.56	26.39	40.82	27.61	3.87	.0003*
Capitalization	62.06	25.25	48.21	27.77	2.17	.04*
Punctuation	67.50	25.78	48.44	31.09	2.70	.009*
Usage	63.59	22.45	42.18	24.86	3.67	.0005*
Language Total	67.13	23.83	44.71	28.13	3.48	.0009*
Math Concepts	65.13	23.34	34.57	23.61	5.32	.0000*
Math Problem Solving	62.63	23.46	40.03	22.17	4.05	.0001*
Math Total	64.23	20.97	35.54	22.42	5.47	.0000*
Core Total	65.22	21.84	37.06	23.19	5.00	.0000*

Table 5
Comparison of Camp Creek IMAT and Comparison Students with Respect to Measures of Self-Esteem as Measured in the Spring of 1996

	IMAT		Comparison			
Measure	Mean	Std.	Mean	Std.	t	pr(t)
Coopersmith						
n=	149		194			
General Self	17.78	5.44	17.81	4.78	.07	.95
Social Self	6.09	1.97	5.98	1.89	.49	.63
Home/Parent	4.85	2.38	5.03	2.07	.76	.44
School Ach.	4.99	2.06	4.40	1.80	2.77	.006*
Total	33.70	10.05	33.24	8.48	.46	.65
Grade Six						
n=	45		55			
General Self	18.29	5.10	16.96	4.60	1.36	.18
Social Self	6.3	1.67	5.43	1.86	2.44	.02*
Home	4.89	2.23	5.00	2.05	.26	.80
School Ach.	4.71	1.90	4.25	1.84	1.22	.23
Total	34.2	9.35	31.65	8.64	1.41	.16
Grade Seven						
n=	52		74			
General Self	16.92	5.5	18.64	4.41	-1.90	.06
Social Self	5.71	2.08	6.35	1.69	-1.90	.06
Home/Parent	4.56	2.54	5.19	2.02	-1.55	.12
School Ach.	5.13	2.25	4.55	1.70	1.57	.12
Total	32.33	10.82	34.74	7.54	-1.39	.17
Grade Eight						
n=	48		58			
General Self	18.06	5.70	17.97	5.10	.092	.93
Social Self	6.25	2.16	6.08	1.98	.41	.69
Home/Parent	5.02	2.43	4.83	2.16	.433	.66
School Ach.	5.10	2.02	4.41	1.82	1.85	.07
Total	34.44	10.15	33.29	8.89	.62	.54

Table 6

A Comparison of Camp Creek Students with Regard to Discipline Referrals during 1995-1996

	IMAT1		Non-IMAT			
Measure	Mean	Std.	Mean	Std.	t	pr(t)
Grade 7						
Behavior Referrals	.13	.47	3.75	9.58	-1.31	.22
Grade 8						
Behavior Referrals	.09	.39	4.56	5.92	-.02	.009*